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IMAGING FOR RESIDENTS

Finger Disorder

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Case

A 35-year-old female sprained her left little finger while playing baseball. Inability to extend her distal phalanx was noticed thereafter. Pictures are shown as follows: (A) her left hand; (B) the hand on plain film; (C) the long axis view of the painful finger and (D) of the contralateral finger under sonography.

What is your impression?

Interpretation

Fig. 1C shows a bone avulsion at the base of the 5th distal phalanx. Compared with the tendon on Fig. 1D, the finger extensor tendon adjacent to the bony chip is more swollen and hypoechoic. Both pictures indicate an avulsion fracture at the base of the distal phalanx with a partial tear at the insertion of the central slip, which is compatible with the pathology of mallet finger.

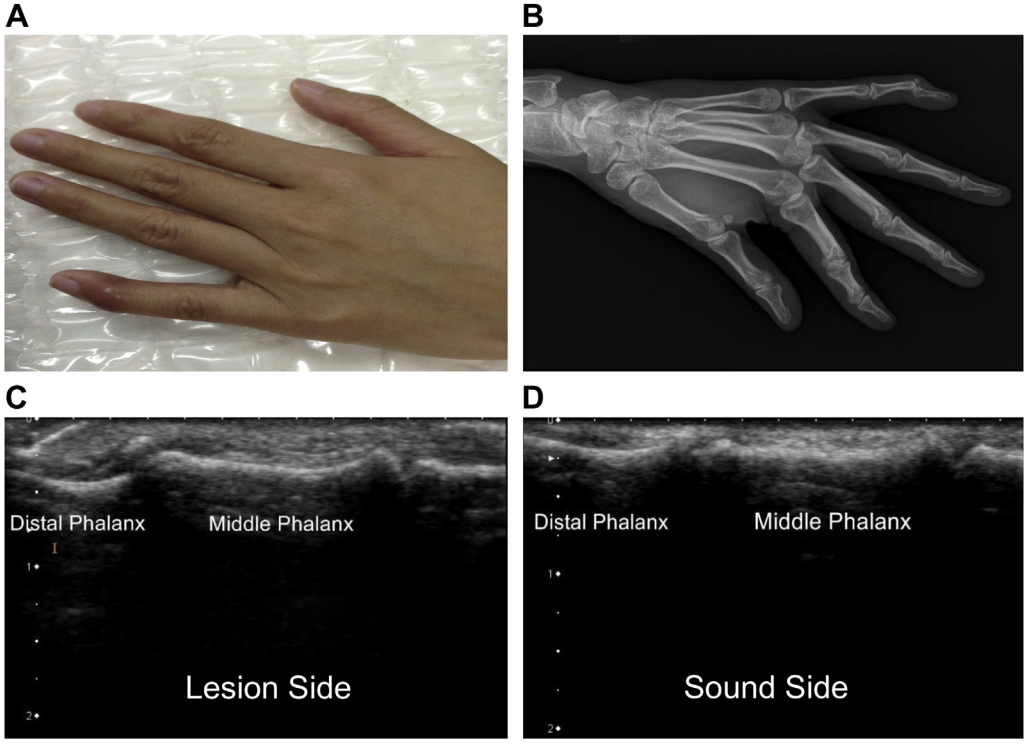

Fig. 1

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Mallet finger, also known as baseball finger, refers to the injury of the extensor digitorum tendon of the fingers at the distal interphalangeal joint. The most common injury mechanism is hyperflexion of the extensor digitorum tendon which often occurs when a ball hits an outstretched finger and jams it. The pathology is a ruptured or overstretched extensor digitorum tendon with an avulsion fracture at the tendon insertion [1]. The sonographic criteria for traumatic mallet finger include discontinuity of the extensor tendon with partial or complete tear, avulsion fracture, no real time movements of the extensor tendon, and fluid in the region of insertion of the extensor tendon [2]. The first-line treatment is immobilization of the distal interphalangeal joint in extension by splints. Surgical intervention should be reserved for patients with open injuries, avulsion fracture involving at least one third of the articular surface with or without palmar subluxation of the distal phalanx or unsuccessful splint treatment [3].

References

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